Service Date: July 17, 1978

DEPARTMENT OF PUBLIC SERVICE REGULATION
BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MONTANA

IN THE MATTER OF the Application by the CITY OF BILLINGS for Authority to Increase Rates for Water Service and to Establish a Connection Charge at Billings, Montana, and Vicinity.	))))))	DOCKET NO. 6542 ORDER NO. 4406a

Pursuant to notice given in the manner prescribed by law, this matter came on regularly to be heard commencing at 1:30 p.m. on the 21st day of March, 1978, at Eastern Montana College, Petro East and West Room, in the City of Billings, Montana, before the Department of Public Service Regulation, Montana Public Service Commission.

APPEARANCES

REPRESENTING THE APPLICANT, CITY OF BILLINGS:

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REPRESENTING THE PROTESTANT, COUNTY WATER DISTRICT OF BILLINGS HEIGHTS:

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REPRESENTING THE PROTESTANT, MONTANA CONSUMER COUNSEL:

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REPRESENTING THE MONTANA PUBLIC SERVICE COMMISSION:

Dennis R. Lopach, Esq.
Frank Buckley, Utility Administrator
Judy Curtis, Economist
James Dwyer, Rate Analyst

BEFORE:

GORDON E. BOLLINGER, Chairman
P. J. GILFEATHER, Commissioner
THOMAS J. SCHNEIDER, Commissioner
JAMES R. SHEA, Commissioner
GEORGE TURMAN, Commissioner

APPLICATION AND PROCEEDINGS

1. On October 17, 1977, the City of Billings (Applicant, City, or CB) petitioned this Commission for authority to increase the rates charged its water utility customers by an average of $1.636 million per year for the period January, 1978 through June, 1980.

2. On December 22, 1977, the Commission received a petition from CB requesting interim or temporary rate relief equal to $1.311 million or approximately 80 percent of the proposed permanent increase.

3. The Montana Consumer Counsel (MCC) has participated on behalf of utility consumers in this docket since the inception of these proceedings.

4. Following Commission approval on January 9, 1978, the County Water District of Billings Heights (District) assumed the role of intervenor in this docket.

5. A hearing on the Applicant's request for a temporary rate increase was scheduled for January 23, 1978 and duly noticed.

6. On January 20, 1978, the Applicant filed an objection to the conduct of any hearing on its interim petition and a memorandum in support of the objection. Counsel for the City argued therein that the Applicant was experiencing difficulties in preparing evidence to support the interim request in the absence of "clear and forthright guidelines."

7. The hearing on temporary rates scheduled for the following Monday, January 23, 1978, was canceled and rescheduled for February 10, 1978.

8. A public hearing on CB's request for an interim water rate increase was held on February 10, 1978 in the Conference Room of the Public Service Commission, 1227 11th Avenue, Helena, Montana.

9. The Commission, having considered the testimony, the evidence, and the law issued Order No. 4406 dated March 6, 1978. This order granted CB interim rate relief equal to $649,000.

10. Said interim rate relief was to have been distributed to all classes of CB's customers by raising all rates and charges a uniform percentage per hundred cubic feet.

11. Accordingly CB did file, on March 28, 1978, and this Commission accepted as filed, three tariff pages denoting the interim rates.

12. Public notice of this hearing was given by means of legal publication in The Billings Gazette. Also a news release detailing the elements of the hearing and schedule and location thereof was sent to the various news media outlets in Billings.

13. The hearing commenced at 1:30 o'clock p.m. (MST) on March 21, 1978, at Petro East and West Room, Eastern Montana College, Billings, Montana. During the hearing seven witnesses for the Applicant testified, subject to cross-examination, Robert B. Benson of Black & Veatch, Rate Analyst; James R. Wright of Black & Veatch, Project Engineer; Richard L. Larsen, City Administrator; Gerald D. Underwood, Chief Utilities Engineer for the City of Billings; Carl Christensen, Business Manager for the City of Billings Water Utility; Barbara Christenson, Water Consumer; Charles W. Keller, Partner, Black & Veatch.

One witness for the Consumer Counsel, Richard L. Morgan, testified, subject to cross-examination.

Two witnesses for the County Water District of Billings Heights, David W. McCullough and Oscar Harmon, testified, subject to cross-examination. Statements were later taken from a number of public witnesses, including Steve Trenka, Mrs. Frances M. Freidt, and Marian Dozier, as well as others.

14. Upon the conclusion of the hearing a briefing schedule was arranged. Accordingly CB, MCC and BH submitted initial briefs, reply briefs and proposed orders. Upon careful review and examination of these documents and the record in this docket the Commission enters the following findings of fact:

I

Net Revenue Bond Debt Service

The Applicant in presenting Exhibit S (RLM-2 corrected) calculates that net revenue bond debt service for fiscal year ending June 30, 1977 should be $1,195,974.

MCC in presenting Exhibit RLM-2 suggests that net revenue bond debt service for fiscal year ending June 30, 1977 should be $1,007,272.

The Commission in arriving at a calculation for Net Revenue Bond Service used the Bond Ordinances #3647, #3881, and #3960 as well as the Accountants' Report entitled City of Billings, Montana Water and Sanitary Sewerage System. (Pages 9 & 11 dated June 30, 1977). The following figures represent these calculations:

		FY 79	
Ordinance #3647			
7/1/78 PRINCIPAL			360,000
1/1/79 INTEREST:			
(3,620,000 x .065 x .5)	=	117,650	
(565,000 x .054 x .5)	=	15,255	
(10,730,000 x .05 x .5)	=	268,250	
(2,380,000 x .045 x .5)	=	53,550	454,705
7/1/79 INTEREST: (Note: Although this interest figure is paid in FY80 it represents accrued interest during the final half of FY79)			454,705
Total			$1,269,410
Water System %			x .8655
Total for #3647			$1,098,674

Ordinance #3960
1/1/79 INTEREST:

(95,000 x .07 x .5) =		3,325	
(570,000 x .07125 x .5)	=	20,306	
(500,000 x .073 x .5)	=	18,250	
(1,685,000 x .075 x .5)	=	63,187	$ 105,068
7/1/79 INTEREST: (See Note Above)			105,068
Total			$ 210,136
Water System %			x .8655
Total for #3960			$ 181,874

Ordinance #3881

In 1975 Refunding Revenue Bonds were issued under the terms of Ordinance 3881. The purpose of this issue was to sell bonds with a 6% interest rate and use the proceeds to pay the interest and principal on Series 1973 bonds numbered 1-757 inclusive which are 6.5% bonds. The proceeds are held in escrow by the First National Bank of Missoula, Montana and were used to purchase Federal National Mortgage Association debentures of sufficient yield and varying maturities to provide the necessary funds to cover the interest and principal payments coming due.

Total #3647	$1,098,674
Total #3960	181,874
Sub-total	$1,280,548
Less:	
Investment Income	98,682
(Net Revenue Bond Debt Service FY79)	$1,181,866

		FY 80	
Ordinance #3647			
7/1/79 PRINCIPAL			375,000
1/1/80 INTEREST:			
(3,245,000 x .065 x .5)	=	105,462	
(565,000 x .054 x .5)	=	15,255	
(10,730,000 x .05 x .5)	=	268,250	
(2,380,000 x .045 x .5)	=	53,550	442,517
7/1/80 INTEREST			442,517
(See Previous Note)			
Total			$1,260,034
Water System %			x .8655
Total for #3647			$1,090,559
Ordinance #3960			
7/1/79 PRINCIPAL			$ 25,000
1/1/80 INTEREST:			
(70,000 x .07 x .5) =		2,450	
(570,000 x .07125 x .5)	=	20,306	
(500,000 x .073 x .5)	=	18,250	
(1,685,000 x .075 x .5) =		63,187	104,193
7/1/80 INTEREST:			104,193
(See Previous Note)			
Total			$ 233,386
Water System %			x .8655
Total for #3960			$ 201,996

Ordinance #3881

In 1975 Refunding Revenue Bonds were issued under the terms of Ordinance 3881. The purpose of this issue was to sell bonds with a 6% interest rate and use the proceeds to pay the interest and principal on Series 1973 bonds numbered 1-757 inclusive which are 6.5% bonds. The proceeds are held in escrow by the First National Bank of Missoula, Montana and were used

to purchase Federal National Mortgage Association debentures of sufficient yield and of varying maturities to provide the necessary funds to cover the interest and principal payments coming due.

Total #3647	$1,090,559
Total #3960	201,996
Sub-total	$1,292,555
Less:	
Investment Income	98,682
(Net Revenue Bond Debt Service FY80)	$1,193,873

In the interest of arriving at a test year figure and since FY79 and FY80 figures are in such close proximity the Commission chooses to average these two figures. Accordingly the following figure is derived.

FY 79	1,181,866	
FY 80	1,193,873	
	$2,375,739	
	) 2 =	$1,187,869

Section 5.04(a) and 5.04(d) of Revenue Bond Ordinance #3647 of the City of Billings set forth the parameters for further bond issuance by Applicant. In order for the Applicant to accomplish these requirements the following calculation is necessary to arrive at a final Net Revenue Bond Debt Service figure for the test year.

	$1,187,869
	x 1.25
(Total Allowed Net Revenue Bond Debt Service)	$1,484,836

II

Future Revenue Bond Issues

The Applicant assumed that the balance of the projected capital improvement costs not recovered from available funds and related interest earnings would be financed through the sale

of additional revenue bonds. Based on a 25-year serial issue assumed to be sold at the beginning of fiscal year 1979 ($3,200,000) and fiscal year 1980 ($300,000) at an annual interest rate of 7.0 per
cent, with equal annual payments of principal and interest on each issue, the Applicant alleged that expenses in fiscal year 1979 would be $275,000 and $301,000 in fiscal year 1980.

MCC, in all instances, rejects Applicant's attempts to include a 1979 bond issue in its rate request.

The Commission agrees with MCC in this instant case. Yet the merit of requiring the Applicant to institute a new rate increase proceeding for the relatively simply matter of bond issuance is non-existent. Therefore, the Commission finds that the Applicant upon sale of 1979 bond issue shall file tariffs reflecting an across the board percentage increase equal to the increase in revenues necessary to meet the expenses incurred in the new bond issuance. Not only shall the Commission be notified of this occurrence, but all parties of record in this matter.

III

Recurring Annual Capital Improvements

The City of Billings application would establish a water rate increase at a sufficient level to provide approximately $600,000 per year for recurring annual capital improvements. The Applicant alleges that there currently exist thirty old projects which are a recurring maintenance problem. Accordingly the Applicant submitted preliminary estimates/plans for these projects as evidence in support of the 5600,000 figure.

MCC conceded the $600,000 with certain reservations as can be evidenced in the following calculation from MCC proposed order.

Recurring Annual Capital Imp.	600,000
Less Unrestricted Other Income	
Miscellaneous	(7,600)
Interest on Operating Fund	(8,251)
Interest on Surplus Fund	(45,553)
Interest on R&D Account	(2,615)
Net Recurring Capital Improvement Cost	(535,981)

In calculating a figure for recurring annual capital improvements the Commission used Exhibit S of the city and RLM-2 of MCC. In both instances the RACI figure was $157,482 as exhibited by both parties. This figure is a close approximation of the recent historical level of RACI. Thus the Commission finds the following:

RACI Requested	600,000
Less: RACI FY77	157,482
RACI allowed increase	$442,518

An increase of $442,518 in RACI is justified and reasonable; however, the Commission in exercising its regulatory discretion directs that the Applicant is to keep the Commission currently informed of the revenues expended for RACI. In order to assure just and reasonable rates and service the Commission herein requires that the Applicant establish and maintain an account entitled Recurring Annual Capital Improvements. Furthermore, the Commission requires that the Applicant provide the Commission with monthly reports detailing activity in this account.

IV

Operations and Maintenance Expense

The Applicant alleged that historical and projected annual operation and maintenance expenses were summarized in Table 6 of Exhibit A. These projected costs were based on an examination of historical operating data and cost trends, modified to recognize current and anticipated future operating conditions and inflationary trends. According to the Applicant several factors contribute to the relatively high rate of increase in operating expense reflected in recent years and projected for the future. Included among these are increases in the number of employees required to operate and maintain the newly expanded water treatment and pumping facilities, anticipated increases in the costs of purchased power, chemicals and fuel largely attributable to the recent national energy problem, and the effects of continuing inflation and projected customer growth.

MCC in RLM-6 (page 2 of 3 and 3 of 3) submitted calculations with respect to Total Test Year Operating and Maintenance expense. For purposes of clarity and also development of the Commission's analysis these pages are included herein:

Adjustments to Test Year Expenditures

Test Year Expense at 6/30/77		1,503,148
Additions		
62 new employees - $5241 per month x 12 months	$62,892	
Employee Benefits - 23% x $62,892	14,465	
Increased Power Costs - 10% x $121,081	12,081	
Salary and Wage Increases - $397,556 x 6 2% x 2 (2 year thru 12/31/77)	51,682	
Employee Benefits - 23% x $51,682	11,797	
Less Salary and Wage Economies Due to Attrition and Vacancies	(27,904)	
Employee Benefits - 23% x $27,904	(6,418)	
Net Increases		118,595
Sub-Total Forward		$1,621,743
Less		
Rate Study Expense		19,811
Legal Fee Executive Cost Center Attributable to Rate Study	8,149	

Less Retainer	2,400	5,749
Miscellaneous Expense in Excess of 1976 Levels Deemed To be Non-Recurring		
Structures		864
Water Treatment		830
Willet Reservoir #3		728
Willet Pump Station #1		1,287
Staples Pump Station #1		1,285
Mains		(461)
Customer Billing		8,094
Executive		8,407
Utilities S.C.		3,545
Street Restoration Expenses Included in Cost Estimates of Annual Recurring Improvement Program		
Structures		15,114
Valves		
50		
Hydrants		745
		66,048
Sub-Total		$1,555,695

Add:

Amortized Rate Costs Amortized Over 5 Years	
Rate Study $19,811) 5	3,962
Legal Fee $5,749) 5	1,150
Total Test Year Operating & Maintenance Expense	$1,560,807

In accordance with numerous past cases the Commission cannot accept the financial data and test year results of the Applicant, with respect to O & M, as they are based on an average of forecasted and projected expenses. Therefore the Commission in developing an O & M relied upon the figures presented in CB Exhibit S and RLM-6 page 2 of 3 and page 3 of 3. Then known and normalized changes and adjustments were either added or subtracted. Accordingly, the following calculation was developed:

O & M Expenses	
Water Supply & Purification	$ 550,428
Booster Pumping	68,903
Transmission & Distribution	324,051
Billing and Accounting	368,953
Administrative and General	286,382
	$1,598,697
Adjustments:	
Administrative & General (actual 1977)	190,813
New Employees	62,892
Employee Benefits	14,465
Increased Power Costs	12,081
Salary & Wage Increases	51,682
Increased Employee Benefits	11,797
	343,910

Less:		
Rate Study Expense	19,811	
Legal Fee	8,149	
Less Retainer	(2,400)	
Misc. Expenses in excess of 1976 levels deemed to be non-recurring	24,579	
Street restoration included in RACI	15,909	(66,048)
Sub-Total		$277,862
Add:		
Rate Case Cost Amortized over 3 years		
19,811) 3	6,604	
5,749) 3	1,916	8,520
Total Administrative General		$286,382

Adjusted A & G	286,382
Actual A & G	190,813
Increase O & M	$ 95,569

The Commission finds that allowable change to the O & M account is $95,569.

V

Summary of Revenue Requirements

Net Revenue Bond Debt Service	$1,484,836
Recurring Annual Capital Improvements	600,000
Operational and Maintenance Expense	1,598,697
Total For Test Year	$3,683,533
Less:	
Test Year Revenue	2,613,765
Total Revenue Increase Allowed	$1,069,768

This calculation does not include any amount for a new revenue bond issuance. If these bonds are issued the Commission would act in accordance with Finding of Fact II.

RATE DESIGN

Cost of Service and Rate Design Testimony-City

Mr. Benson of Black and Veatch provided the cost of service study in this case. The cost of service study basically consisted of assigning cost responsibility to various customer classes equivalent to the average annual revenue requirement of $4,153,000.

The apportionment of cost responsibility was performed on a "utility basis, that is in terms of operating expense, depreciation expense and return." The $4,153,000 average test year cost of service, expressed on a utility bases, included $1,805,000 in operating expense, $901,000 in depreciation expense, and $1,447,000 in return. Mr. Benson described the sum of depreciation and return as the capital cost portion of the total cost of service (Pg. 26, Exhibit A).

The methodology of Mr. Benson first involved the separation or functionalization of costs into Base, Extra Capacity, and Customer components. The type of costs related to each of these functions was described on page 29 of Exhibit A. Additionally this study recognizes that "In accord with current City policy, the differing costs associated with the facilities required to provide service to these various service levels are separately allocated among the various outside City water service levels, whereas inside the City these differing costs are shared by all customers in common." The functional costs were further separated by categories designated Common to all Customers, Common to Inside City Customers, Common to Outside City Customers. The category Common to Outside City Customers was further separated into four elevation or pumping zones. (Pg. 30, Exhibit A).

The total cost responsibility of each class of service was established by developing unit costs of service for each cost function and assigning those costs to the customer classes based on the respective service requirements of each.

The estimated average test year units of service requirements for the various customer classifications are shown in Table 16. Estimates of test year annual and average day water use were, based on projections of the total number of customers and water sales previously developed in this report, apportioned to classes recognizing historical experience. Estimates of

peak requirements are based on an analysis of available historical experience for the Billings area and the results of studies of customer peak demand characteristics in other cities.

"Capacity factors for the outside City High Use Industrial class customer (Continental Oil) are based on historical billing data and information obtained in interviews with company representatives. Recognizing size, nature of operations and scheduling of production, this customer exhibits a very favorable load factor and peak capacity requirements are expected to be less in relation to average use than for other customer classes."

"Although the Outside City Wholesale class customer (District) represents principally domestic type usage, the peak day and hour capacity factors presented in Table 16 recognize contractual limitations on maximum rates of use and consideration that a major portion of wholesale customer maximum hour extra capacity requirements will be met from the customer's own distribution storage facilities." (Pg. 39, Exhibit A).

Mr. Benson (Tr. 592; 593) described the use of coincidental and noncoincidental peak demand at various stages of the cost study. Coincidental peak demand was used to functionalize the costs to base, maximum day and extra capacity. Noncoincidental peak was used to assign responsibility for the functionalized costs to the various customer classes.

The City relied upon certain Contract provisions (Pg. 2, paragraph 2) to establish the maximum hour capacity factor for the District. The City calculated a "maximum hour" daily rate by converting the 2000 gallons per minute to 2.88 million gallons per day (mgpd). The maximum hour capacity factor was then calculated by dividing this maximum hour daily rate of 2.88 mgpd by the average annual daily rate of .975 mgpd to arrive at a rounded factor of 300.

Exhibit A, page 40, provided the basis for the City's proposed differential rate of return as between the Inside City Customers and Outside City Customers. The rationale revolved around the proprietary interest of the inside City customers in the water system. A 7.5 percent annual rate of return on the depreciated net investment of the utility plant serving outside City customers was determined appropriate. The return to be derived from inside City customers was established by subtracting the outside City contribution from the total return required by the system. The

record demonstrates that the resulting rate of return assigned to inside City customers approximated 6.2%. The overall rate of return for cost allocation purposes was 6.36%.

Rate Design

Mr. Benson (Exhibit A, Pg. 46) described the rate design determinations in this manner: "Principal criteria used in developing the proposed rates have been to recognize the test year cost of service allocations derived in this report, while establishing rates to outside City Base Service Level customers (presently charged the same rates as inside City customers) which would be no less than comparable rates to inside City customers."

Mr. Benson (Exhibit A, pg. 48) addressed the District rate design: "As a wholesale customer, the Billings Heights Water District exhibits markedly different total usage and peak demand characteristics than other "P" Service Level retail customers. Because of the differences the proposed "P" Service Level rates proposed for retail customers will not recover the District's allocated cost of service. The fixed unit volume charge proposed for the District in Table 20 is designed to recover these costs."

Cost of Service and Rate Design Testimony District

Mr. McCullough provided the cost of service testimony for the District. Mr. McCullough's testimony revealed several areas of disagreement with the City's cost of service study and his belief that the proposed rate increase to the District was discriminatory. Mr. McCullough's testimony included, among others, the following positions:

(a) The City had underestimated the level of water consumption for the District by 120,000 hundred cubic feet (ccf).

(b) The flat rate structure proposed by the City for the District is unique to that customer (a declining block rate structure is proposed for all other customer classes) and is discriminatory. The flat rate is overly sensitive to the accuracy of the forecasted consumption, which produces a high degree of volatility in revenue to the City and expense to the District.

(c) The comparative percentage increases proposed by the City as between the District and the "P" service level--both of which involve one booster pumping level above the base service level--is discriminatory.

(d) The assignment of maximum hour capacity factor of 300 does not recognize the storage capacity of the District which is used to service District customers. The City can pump to the District during off peak hours thus avoiding the "extra-capacity" supply plant which would be expected for service at system coincidental peak.

(e) The maximum hour capacity factor of 300 assigned to the District is discriminatory as compared to that for Continental Oil of 160. The District contends that the relative storage to usage figures shown on page 33 suggests that the District deserves a lower maximum hour capacity factor than Continental. The District proposes a 175 maximum hour factor in any event.

(f) The City did not adequately consider the benefits derived from the joint-use 16" main which permitted the City to annex certain areas in the District and the Kimberly-Heights/Alkali-Creek areas.

(g) The District is not benefitted by the $7,474,925 investment in extending transmission mains to areas north and west of the treatment plant.

(h) The present two pumps at the Sword Park booster station could supply the 1980 average day maximum month use of 1,958,470 gpd by pumping 14.7 hours. The addition of a suggested third pump could satisfy that requirement in 9.8 hours per day.

(i) The 7.5% rate of return charged to the District as an outside of City customer unfairly resulted in the District's customers within the City limits, which constituted 27.5% of the Districts water use, paying excess rates. The District proposed a reduction in the rates charged the District to reflect that "return" and that District would flow the benefit of that reduced rate, less a 5% administrative charge, to the District's "City" customers.

Commission Findings and Analysis

Cost of Service and Rate Design

(1) The cost of service study performed by Black and Veatch was more detailed in its methodology than was justified by the available data base. Importantly, the cost of service allocations were based upon three water use characteristics: (1) Base or average annual water use; (2) Maximum day use; and (3) Maximum hour use. Of these parameters only the average annual usage is known (See CB response to District Interrogatory No. 8). The other known usage parameter was monthly water use. It was possible, then, to develop average and peak month usages directly.

The cost of service study, therefore, relied upon the results of studies of customer peak demand characteristics in other cities to estimate the maximum day and maximum hour capacity factors for the various customer classes. This reliance was tempered by interviews with representatives of Continental Oil and the "Contract" between the City and District. (See page 37, paragraph 3, Exhibit A).

The Black and Veatch study utilized a mix of coincidental and noncoincidental peak demand to functionalize and allocate cost responsibility to the various classes. The Commission finds that, even if the data were available to base this methodology, this mix of demand characteristics is not appropriate for certain costs. Noncoincidental demand has merit for certain transmission and distribution costs. However, water production plant is determined to a substantial degree by coincidental peak demand and the average use characteristics which determine the capacity, type and function of the production units. The City's use of noncoincidental demand in the allocation of costs to the classes is a critical consideration in the resolution of the District's cost responsibility as discussed below.

City/District: Resolution of Positions

The cost of service and rate design controversy in this case revolves around the proposed increase to the Billings Heights Water District. The testimony of the District set the issues in focus.

(2) The threshold question which the Commission must resolve is whether the City can increase the rates to the District by a differing percentage than that proposed for other customer classes. The Commission clearly has the authority to determine the rates of the various customer classes and the responsibility to insure that all such rates are just and reasonable and not unjustly discriminatory. The fact that a particular class is assigned a greater percentage increase than other classes does not constitute unjust discrimination if the weight of the evidence in the case justifies such rate treatment. The Contract provision establishing a uniform percentage treatment as between the District and other customer classes is not controlling. While this Commission does not have judicial powers enabling it to interpret utility contracts, such contracts are subject to certain regulatory powers of the Commission in rate and service areas.

Maximum Day Capacity Factors

(3) The District raised a key question of rate design equity by comparing the maximum day and maximum hour capacity factors which were assigned to Continental Oil Company and the District. The Commission in order to establish an equitable apportionment of costs examined the actual monthly and average annual water use of these two customer classes, which is the only actual use data in the record. Mr. McCullough (Exhibit 2, pg. 2) provided a table which demonstrates that the ratios of the average day during the peak month to the average day for the year 1977 were 1.42 for Continental Oil and 1.69 for the District. The Commission finds that this is the only factual basis in this record upon which to establish the maximum day capacity factor for these customers. The City assigned maximum day capacity factors of 1.40 and 1.75 for Continental Oil and the District respectively. The Commission accepts the rounded maximum day
factor of 1.40 for Continental and finds a factor of 1.70 appropriate for the District.

Maximum Hour Capacity Factors - "Contract" Reliance

(4) The maximum hour capacity factor of 300 which was assigned to the District constitutes the key cost allocation issue in the case. The City relied upon certain Contract provisions to establish the maximum hour capacity factors:

> "The City shall install in this booster pumping station initially, not less than two pumps. The pumps installed, when operating simultaneously, shall have a combined capacity of not less than 2000 gallons per minute. The pumps installed, when operating simultaneously and at a combined rate of 2000 gallons per minute, shall be capable of discharging water into the District's mains at sufficient pressure to fill the District's reservoir on Afflerbaugh Hill each and every day during the hours of minimum daily water use." (Contract, page 2, paragraph 2).

The maximum hour capacity factor of 300 was calculated by converting the 2000 gallon per minute pump capacity to 2.88 million gallons per day (mgpd) and dividing that "maximum hour" daily rate by the average annual daily rate of 0.975 mgpd (2.88) .975).

To the extent that two pumps capable of providing 2000 gpm are necessary to fulfill that contract provision, there is some basis for assigning the costs associated directly with those facilities to the District. However, to utilize the maximum hour capacity factor derived from that contract provision to the full range of the utility's extra-capacity costs is not appropriate. The record is clear that the District has storage capacity which enables the City to pump to the District during off peak hours and, therefore, relieves the City of the burden of providing extra-capacity facilities at the system level. The Contract itself provides that the City maintain 2000 gpm pump capability to the District "during the hours of minimum daily water use" (Contract page 2, paragraph 2). Consequently, Commission does not accept the City's maximum hour capacity factor of 300.

(5) Although the City did not rely upon them in establishing the maximum hour factor, the operative provisions of the Contract concerning the supply of water to the District provide:

> "In this regard the City agrees that it will at all times furnish, operate and maintain at its own expense, water transmission mains and pumping facilities capable of providing water at a pressure and

> quantity sufficient to meet the demands of the District, subject only to the following limitations:
>
> (a) The City shall not be required to provide to the District, during any 24 hour day, any more than twice the average daily amount of water used during June, July and August of the summer immediately preceding.
>
> (b) The City reserves the right to restrict the use of water by the District in the event a shortage of water makes it necessary to impose restrictions in use on all other users of City water. However, restrictions in use, if any, imposed upon the District, shall be no different than the use restrictions imposed within the City of Billings."

The Commission notes that it is precluded from considering, modifying or interpreting such a clause due to this agency's lack of judicial powers, except when such a clause, based on clear evidence of record, adversely affects the public interest due to it's rate or service requirements. See Greenwich v Greenwich Water Co., 144 A.2d. 318, 26 P.U.R. 3rd 50, 53 (Conn., 1958).

A review of the historical District water use from 1969 to the present, as shown on Exhibit 2, page 8, yields annual growth rates in District use which are on the order of 17%. There is no evidence of record to indicate that the City has built plant capacity or transmission plant to accommodate the inflated (doubling) growth rate provisions in the Contract or that these provisions of contract have adversely affected the public interest. Therefore, the Commission finds that the Contract provision requiring the City to provide up to two times the average daily use for the months of June-August of the previous year is not an appropriate factor upon which to base cost allocations. The Commission finds that in order to establish existing rates for existing customers of the utility that the cost of service allocation methods should be based upon actual use data.

Maximum Hour Capacity Factors-Commission Analysis

(6) The actual average annual daily rate and average day peak month rate, accepted by the Commission in prior findings as the appropriate basis for establishing the maximum day capacity factor, provide the foundation for determining the maximum hour capacity factor. A comparison between the allocation factors assigned Continental and the District is considered essential to insure class equity.

The maximum day capacity factor of 140 (previously accepted by the Commission) and a maximum hour capacity factor of 160 were assigned to Continental Oil. The maximum hour factor was apparently determined through conversations with Continental representatives. Recognizing that Continental does have storage facilities and in the absence of any actual data, the Commission accepts this factor.

The Commission in prior findings established a maximum day capacity factor of 170 for the District and rejected the maximum hour capacity factor of 300 (which was based upon the booster pump capacity of 2000 gpm provision of the Contract). The District testified that, because of its storage capacity and off peak use, identical maximum day and maximum hour capacity factors of 175 should be assigned. The result of such a procedure is to eliminate any cost responsibility for extra-capacity associated with maximum hour use. However, the manner in which the maximum day factor was calculated reveals that it is in fact the average day of the peak month. The Commission finds it is probable, if not certain, that the maximum day and maximum hour rates exceed this "average" maximum day.

Additionally, while the Commission recognizes that the District's storage capacity permits the City to avoid pumping at the time of daily system peak, it is probable that the pump rate in the "shoulder" periods of the peak day exceeds the actual average day peak month rate. Therefore, although the Commission is critical of the City's use of a noncoincidental peak demand factor to allocate cost responsibility for all capacity related plant, consistent treatment for all the various classes requires the District to contribute in an equitable fashion.

The City proposed and the Commission previously accepted a differential of 20 between the 140 maximum day factor and 160 maximum hour factor for Continental. The Commission finds that the 20 point spread between the maximum day and maximum hour capacity factors,

when adjusted for relative storage, is appropriate for the District. The ratio of fluctuating storage to average day peak month use for Continental and the District are given below.

	Continental Oil	District
Fluctuating Storage	.42 mgpd	1.0 mgpd
Ave. Day Peak Month Rate	1.42 mgpd	1.69 mgpd
Ratio	.29	.59

The District, then, provides approximately twice the storage to peak use capacity of Continental Oil. This storage capability and consequent off peak use must be recognized as reducing the extra-capacity costs to the City at the system level. Accordingly, the Commission finds that the differential between the maximum day and maximum hour capacity factors for the District should be one-half that of Continental or 20/2. The Commission determines the maximum hour capacity factor for the District to be 180 (i.e. 170 + 10).

Flat Rate Structure Proposed for District Only

(7) The flat rate structure proposed for the District is unique to that customer. Mr. Benson was not persuasive that there is any cost based rationale for this treatment. Again, the proposed treatment of Continental Oil and the District was not justified by any evidence of record in this proceeding. Clearly, any number of rate designs could be used to produce the revenues needed to recover the allocated cost of service for a class. The Commission has generally tended to flatten the rate structures or to eliminate declining block rates for all utilities. The Commission by such policy seeks to provide appropriate cost based price signals to consumers and to avoid any unwarranted "volume discount" for precious natural resources.

In the instant case all class rate structures except that proposed for the District are based upon declining block rates. Because of the limited record in this case and the forced redesign of the entire class rate schedules, which would be required to treat all customers on a flat rate basis with the District, the Commission finds that a redesign of the District's rate structure to parallel that proposed for Continental Oil is appropriate.

The Commission suggests that the City and Consumer Counsel reexamine carefully future applications in regard to the declining block rate structure question.

Annual Volumes Appropriate for Cost of Service Study

(8) The District testified that the volume assigned to the District in the City's cost of service study was underestimated by 120,000 ccf. The annual volume proposed by the City for the District was 403,000 ccf, whereas the District testified that the appropriate figure was 523,000 ccf.

The Commission in resolving this issue again relies upon the actual data in the record to establish the appropriate class volumes. Examination of the monthly water use data for Continental Oil and the District, which are the only customer classes for which such data is available in this record, for the period from July 1976 through June 1977 (i.e. FY 1977) provides the following results as compared to the volumes used in the cost of service study (Table 16):

	Table 16	FY 1977 Actual	Volume Differential
Continental Oil	625,160	653,948	
District	403,000	469,421	
	1,028,160	1,123,369	95,209

The total system sales in FY 1977 as given in the annual report are 6,789,792 ccf as compared to the volume of 6,713,000 ccf used in the cost of service study (Table 16). The combined 95,209 ccf increase determined for the District and Continental exceeds the 76,792 ccf for the total system. However, the annual difference of less than 0.3% is de minimis and adjustment of the remaining class volumes is unnecessary in recalculating the cost of service study.

"Utility Basis" Rate of Return as a Cost of Service Element

9. An important yet easily misunderstood part of the case involves the differential rate of return between inside and outside City customers. It is essential to recognize that rate of return was in no way involved in the determination of the revenue requirement of the City--which was determined entirely upon an embedded accounting cost basis adjusted for known changes.

The cost of service study did use a "utility basis" approach which included as a cost element a rate of return category. The total cost of service to be allocated to the City's customers is equivalent to the revenue requirement as determined above. The Commission recognizes the "utility basis" cost study as a reasonable and recognized method of determining and spreading cost responsibility for the City's plant investment to the various customer classes.

Because rate of return was not a factor in determining the City's revenue requirement, the Commission has not examined the depreciated net investment figures to determine whether they constitute depreciated original cost when first dedicated to public use. It is probable that the City's entire initial investment to purchase the Water System from the Montana Water Company in 1914 for $315,000 plus an unpaid water bill is depreciated out. Furthermore, the overwhelming portion of the $22,735,000 depreciated plant investment, upon which the cost of service allocations were made, has occurred in recent years. These facts tend to minimize the impact of any possible original cost disparities. Accordingly, the Commission accepts the return approach and depreciated investment figures for the limited purpose of allocating cost of service to the various class.

Differential Rate of Return Between Residents and NonResidents of City

(10) The proposed cost of service of the City provides for a differential rate of return between outside City customers and the inside City customers. The overall utility basis rate of return proposed for the water system is 6.36%, consisting of a 6.2% return assigned to inside City customers and a 7.5% rate of return assigned to outside City customers. The testimony and examination of Mr. Benson reveals that there are certain ancillary costs and obligations

associated with the Water System which the City residents alone bear in taxes. Fire and police protection, the long term provision and maintenance of streets (which may be adversely affected by operation of the Water system), and the obligation of the City to provide the Water System irrespective of the flexibility which may be exercised by outside City residents to obtain an alternative water supply are but a few of the examples which require the Commission to recognize and implement a differential element of cost to outside City users.

The District's objection to the "rate of return" proposal of the City was limited to the following: "The concept of a 72% rate of return to the City is not a valid cost of service element and should not be allowed because the City has never provided any capital." (Exhibit 2, pg. 35). It was apparent from the testimony and calculations of Mr. McCullough concerning the necessity of a return credit to the District's City customers, addressed separately below, that the District was not aware that the inside City customers were allocated a 6.2% return requirement. (The Commission recognizes that figure was not explicit in the City's testimony.) The 1.3% differential rate of return was not challenged on this record.

The Commission recognizes that it is normal for nonresidents of municipal water systems to pay a higher rate for like service than residents. While it is difficult to quantify the ancillary costs described above, the Commission can, in determining the reasonableness of the differential, examine the levels allowed in other locales. It is clear to the Commission that the 6.36% overall "return" used in the cost of service study is not excessive. Likewise, the differential proposed between the outside City customers at 7.5% and the inside City customers at 6.2% is well within the differentials allowed in other jurisdictions. The Commission, therefore, finds that the differential proposed is a reasonable and appropriate cost of service item.

Comment: Because the phrase "rate of return" is so associated with the profit element of a private utility, its use even for the limited purpose of describing a cost of service category is easily misunderstood. The Commission suggests more direct cost approach to the resident and nonresident issue in future proceedings in lieu of the differential rate of return approach.

Rate of Return Credit for City Residents on District System

(11) A substantial number of the District's water customers are residents of the City. Under the proposed cost of service methodology the City residents, through the allocated cost to the District as an outside City customer, would pay the outside City rate of return. Equity requires that the Commission resolve this inconsistency. The District has proposed that the City credit the District with a reduced cost of service allocation to reflect that 27.5% of the water used by the District is for inside City customers. The District has proposed to flow through this credit to the City residents which it serves--less a 5% administrative fee. The Commission finds such a solution, as regards the incremental rate of return between inside City and outside City customer, to be in the public interest and an appropriate cost of service adjustment. A stipulation agreement between the parties establishing the procedural mechanism is necessary to fairly implement this action.

Inside City Cost of Service "Melding"

(12) Mr. Fine, a City resident on the south side, testified that inside City rates should be on a "zone cost of service basis" similar to that proposed for outside City customers. Mr. Fine requested that Black and Veatch provide the analogous zone basis cost of service data for inside City customers. Mr. Benson satisfied Mr. Fine that such data was not readily available. The statewide ramifications of an incremental cost of service approach to customers within a particular class (such residential) are substantial. The Commission declines to institute such an approach without a comprehensive analysis of the cost, benefit, and equity considerations which are involved. Therefore, the Commission accepts on the basis of this limited record the City policy which provides for the averaging or sharing of the differing zone costs within the City by all customers in common.

CONCLUSIONS OF LAW

1. The City of Billings Water Department's rates are subject to the jurisdiction of this Commission under Section 70-101, Revised Codes of Montana, 1947, et seq.

2. "It was the intention of the legislature to go no further than to provide that, within the limited sphere of its jurisdiction, the Public Service Commission may make reasonable

regulations which the city must heed, and to that extent only is the authority of the city superseded. It was not intended to take from the city the active management of its water plant, or the authority to appoint the proper officers and employees to operate it, or to interfere with such officers in the proper discharge of their duties." Public Service Commission v. City of Helena, 52 M 527, 541, 159 P 24.

3. "If this utility has lost money during the past several years, the fact remains that this Commission in determining whether or not a rate is reasonable or unreasonable cannot take into consideration the past losses of the utility,... "Re Great Northern Utilities Company, (1938) Montana Public Service Commission, 26 P.U.R. (N.S.) 393, 397.

4. The increased rates approved herein are necessary to the continued operation of the City of Billings Water Department. The rate levels approved herein are reasonable and just.

5. The cost of service and rate design modifications adopted herein are just and reasonable and not unjustly discriminatory.

ORDER

IT IS HEREBY ORDERED:

1. The Applicant shall submit for Commission approval a schedule of rates and charges which will produce a total additional annual revenue of $1,069,768. This figure is calculated from Findings of Fact I, III and IV. This amount shall be in lieu of, not in addition to, the interim rate granted March 6, 1978.

2. The City shall submit to the Commission on a monthly basis an account of all activity in the Recurring Annual Capital Improvement account.

3. The increased revenues authorized herein shall be distributed to Applicant's classes of service on the basis of the cost of service and rate design determinations of the Commission.

4. Applicant shall submit the revised cost of service results along with the revised tariffs for review by the Commission and Staff. The rates approved in this Order shall become effective upon approval of the revised tariffs by the Commission.

5. That when and if the Applicant sells the proposed bond issue new tariffs shall be filed reflecting the resulting cost thereof.

Done In An Open Session this 17th day of July, 1978 by a 5-0 vote.

BY ORDER OF THE PUBLIC SERVICE COMMISSION:

_____
GORDON E. BOLLINGER, Chairman

_____
P. J. GILFEATHER, Commissioner

_____
THOMAS J. SCHNEIDER, Commissioner

_____
JAMES R. SHEA, Commissioner

_____
GEORGE TURMAN, Commissioner

ATTEST:

Madeline L. Cottrill Secretary

(SEAL)

NOTE: You are entitled to judicial review of the final decision in this matter. If no Motion for Reconsideration is filed, judicial review may be obtained by filing a petition for review within thirty (30) days from the service of this order. If a Motion for Reconsideration is filed, a Commission order is final for purpose of appeal upon the entry of a ruling on that motion, or upon the passage of ten (10) days following the filing of that motion. cf. the Montana Administrative Procedure Act, esp. Sec. 82-4216, R.C.M. 1947; and Commission Rules of Practice and Procedure, esp. 38-2.2(64)-P2750, ARM.